

REMARKS

Claims 1-4 and 7-46 currently remain in the application. Claims 1-4, 7-9, 11, 18, 27, 32, 33 and 39 have been amended. Claims 40-46 have been added.

Applicant believes the new claim amendments do not add new matter. Claims 1, 27 and 39 have been amended to incorporate the limitations of objected claim 6. Claim 43 is objected to claim 11 written in independent form. Claim 44 is objected to claim 18 written in independent form.

Rejections under 35 U.S.C. § 102 and 35 U.S.C. § 103

Claims 1-42, as amended, include limitations of objected to claim 6. Claim 43 is objected to claim 11 written in independent form and Claim 44 is claim 18 written in independent form. Thus, applicant believes claims 1-44 are in condition for allowance.

Newly added claim 45 has been amended to include the limitation “wherein the electroactive polymer has an elastic modulus below about 100 MPa.” Applicant respectfully submits that Aindow (U.S. patent 6,094, 988), Strachan (U.S. patent no. 4, 689, 614) and Breismesser, et al (U.S. patent no. 4,906,866) each teach the use of piezoelectric materials (see Abstracts). Piezoelectric ceramics are rigid solids with an elastic modulus typically over 1 GPa. In contrast, polymers of amended claim 1 are compliant and have an elastic modulus under 100 MPa, and are highly different materials well outside the scope of rigid piezoelectric materials. Therefore, for at least these reasons, Aindow, Strachan and Breismesser, can't be said to anticipate or render obvious claim 45.

Newly added claim 46 has been amended to include the limitation “wherein the electroactive polymer is adapted for elastically deforming from a first position with a first area to a second position with a second area and wherein an area strain between the first position and the second position is at least about 10%.” Again, applicant respectfully submits that Aindow (U.S. patent 6,094, 988), Strachan (U.S. patent no. 4, 689, 614) and Breismesser, et al (U.S. patent no. 4,906,866) each teach the use of rigid piezoelectric materials (see Abstracts). Aindow, Strachan and Breismesser do not teach or describe the amount of area strain provided by their materials during operation of their devices. However, in general, piezoelectric ceramics are limited to strains less than 1%, and the rigid piezoelectric polymers employed in the art are limited to strains less than 3-4%. Thus, these rigid materials are not capable of the elastic area strain limits

described with respect to claim 46. Therefore, for at least these reasons, Aindow, Strachan and Breismesser, can't be said to anticipate or render obvious claim 46.

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
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